SAMSUNG

ROOM AIR CONDITIONER

AW05M0YEA

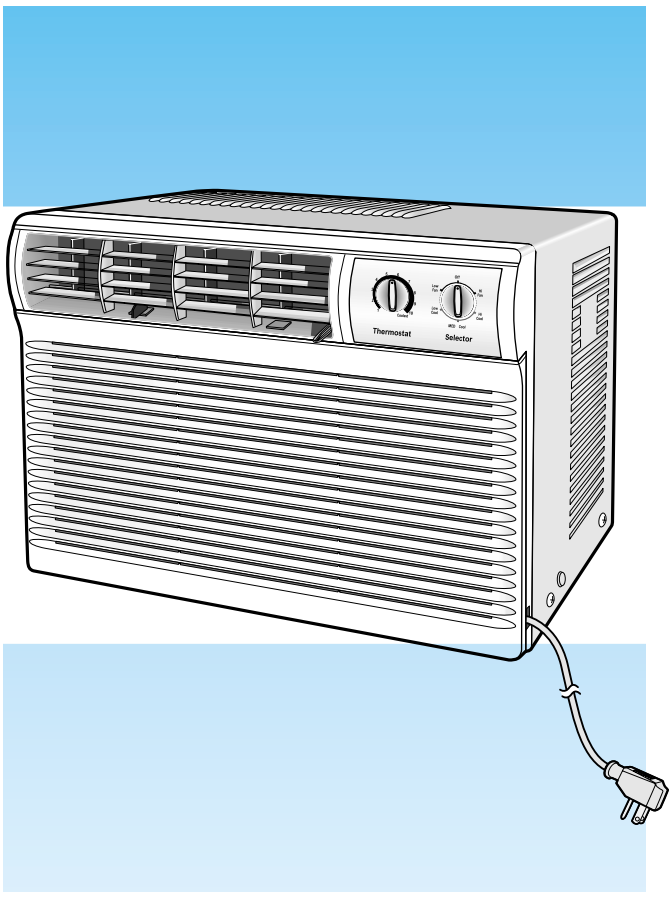
AW05M0YEB

AW05M0YBA

AW05J0YAA

SERVICE Manual

AIR CONDITIONER



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1. Precautions

1. Warning: Prior to repair, disconnect the power cord from the circuit breaker.

2. Use proper parts: Use only exact replacement parts. (Also, we recommend replacing parts rather than repairing them.)

3. Use the proper tools: Use the proper tools and test equipment, and know how to use equipment may cause problems later-intermittent contact, for example.

4. Power Cord: Prior to repair, check the power cord and replace it if necessary.

5. Avoid using an extension cord, and avoid tapping into a power cord. This practice may result in malfunction or fire.

6. After completing repairs and reassembly, check the insulation resistance.
   Procedure: Prior to applying power, measure the resistance between the power cord and the ground terminal. The resistance must be greater than 30 megaohms.

7. Make sure that the grounds are adequate.

8. Make sure that the installation conditions are satisfactory.
   Relocate the unit if necessary.

9. Keep children away from the unit while it is being repaired.

10. Be sure to clean the unit and its surrounding area.

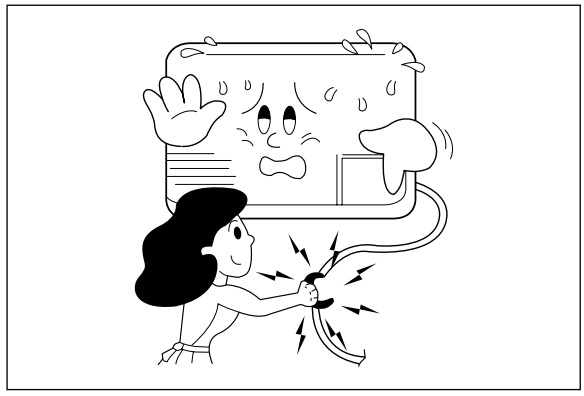


Fig. 1-1 Avoid Dangerous Contact

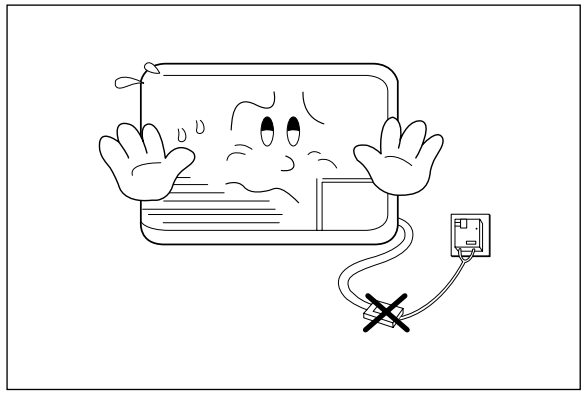


Fig. 1-2 No Tapping and No Extension Cords

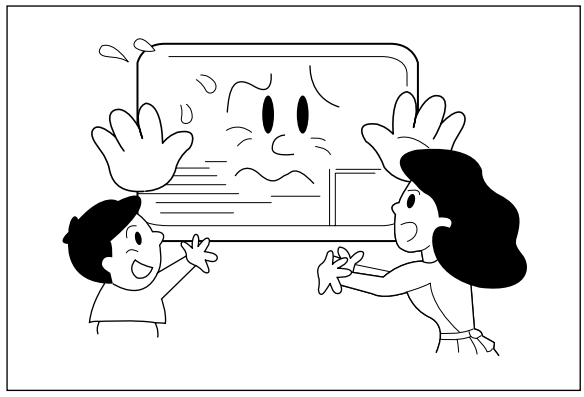


Fig. 1-3 No Kids Nearby!

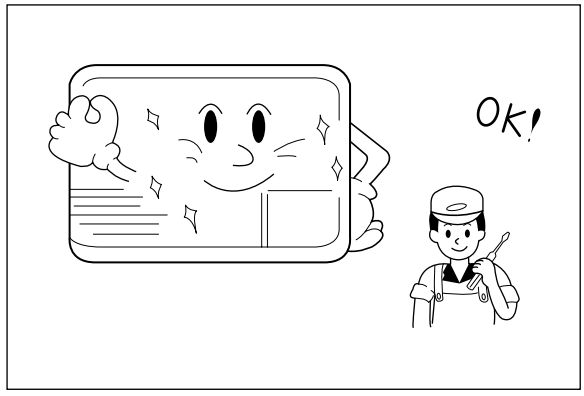


Fig. 1-4 Clean the Unit

2.Product Specifications

2-1 Table

Item	Unit of Measure	AW05M0YEA	AW05M0YEB	AW05M0YBA
Type		WINDOW		
Dimension: (Width×Height×Depth)	mm	424×310×326		
Voltage	Volt	220-240	220-240	220
Phase	-	SINGLE		
Frequency	Hz	50	50	60
Operation Current	A	2.5	2.5	2.5
Power Consumption	W	580	580	545
Refrigerant Type	FREON	R22		
Refrigerant Change	g	180	180	260
Capacity	BTU/h	5200	5200	5450
EER	BTU/h.W	9.0	9.0	10.0
Net Weight	Kg	18.5	18.5	18.5
Condenser	Row	1×16	1×16	2×16
Condenser Fan	Type	Propeller Fan		
Evaporator	Row	2×10	2×10	2×10
Evaporator Fan	Type	Blower		
Fan Motor	MODEL	YGN50-4L	YGN50-4L	YGN50-6S
Compressor(Rotary)	MODEL	39A052JS1KA	39A052JSAKA	39A052ISAKA
Overload Protect	-	MRA12100-12008	KA-122-LYDN59B	KA-122-LYGN59B
Compressor Capacitor	μF/VAC	20/450	20/450	15/450
Fan Motor Capacitor	μF/VAC	1.5/450	1.5/450	1.5/450
Fan Speed	RPM	1060±40/1010±40/960±50	1060±40/1010±40/960±50	1060±40/1010±40/960±50
Thermo Control	-	THERMOSTAT		

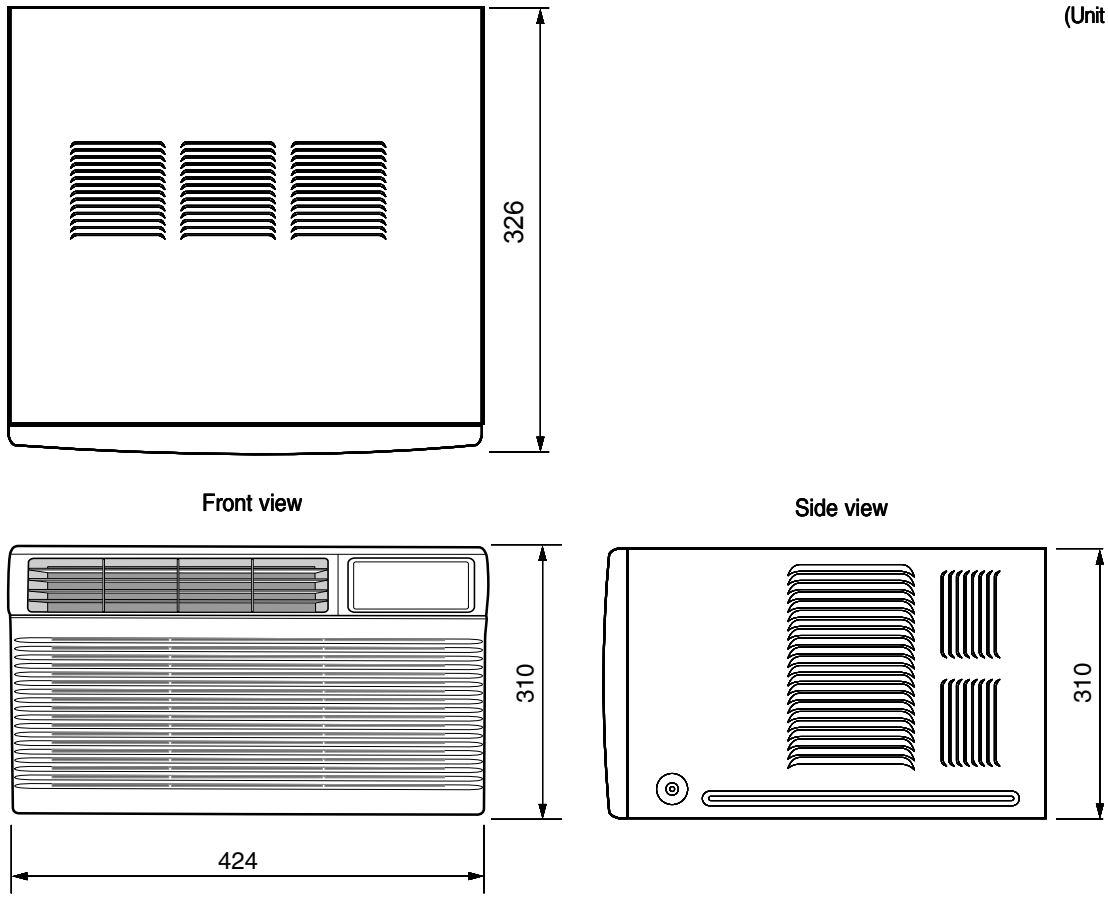
2-1 Table(CONT.)

Item	Unit of Measure	AW05J0YAA	AW05M0YAF	AW05M0YAG
Type		WINDOW		
Dimension: (Width × Height × Depth)	mm	424×310×326		
Voltage	Volt	115		
Phase	-	SINGLE		
Frequency	Hz	60		
Operation Current(C/H)	A	4.8	4.8	4.8
Power Consumption(C/H)	W	530	535	535
Refrigerant Type	FREON	R22		
Refrigerant Change	g	200	310	300
Capacity(C/H)	BTU/h	5200	5200	5200
EER(C/H)	BTU/h.W	9.8	9.7	9.7
Net Weight	Kg	18.5	18.5	18.5
Condenser	Row	1×15	2×15	2×15
Condenser Fan	Type	Propeller Fan		
Evaporator	Row	2×10	2×10	2×10
Evaporator Fan	Type	Blower		
Fan Motor	MODEL	YGN50-6K(M)	YGN50-6K	YGN50-6K
Compressor(Rotary)	MODEL	39A050HS1KA	2R7S126BUC	39A050HSAKA
Overload Protect	-	MRA12145-12008	MRA99811-9201	KA-122-LBDN61K
Compressor Capacitor	μF/VAC	35/270	35/270	35/270
Fan Motor Capacitor	μF/VAC	3.5/270	3.5/270	3.5/270
Fan Speed	RPM	1060±40/1010±40/960±50	1060±40/1010±40/960±50	1060±40/1010±40/960±50
Thermo Control	-	THERMOSTAT		

2-2 Dimensions

2-2-1 Main Unit

(Unit : mm)



3. Installation and Operating Instructions

3-1 Installation

3-1-1 Selecting Area for Installation

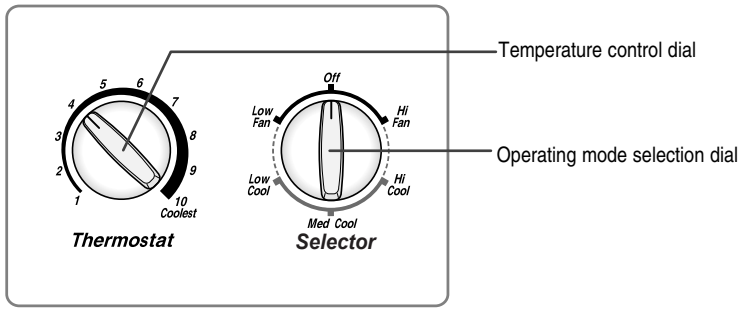
1. Make sure that you install the unit in an area providing good ventilation. The air conditioner must not be blocked by any obstacle affecting the air flow near the air inlet and air outlet.
2. Make sure that you install the unit in an area that allow good air handling. The installation area must be able to endure vibration from the unit.
3. Make sure that you install the unit away from heat or vapor.
4. Make sure that you install the unit in an area which is cool and has adequate space.
5. Make sure that you install the unit in an area away from TVs, audio units, cordless phones, fluorescent lighting fixtures and other electrical appliances (obtain a clearance of at least one meter).
6. Make sure that you install the unit in an area which provides easy drainage for condensed water.
7. Make sure that you install the unit in an area not exposed to rain or direct sunlight. (Install a separate sunblind if exposed to direct sunlight.)
8. Make sure that you install the unit in an area allowing good air movement. Do not install it in a space that would cause noise amplification of noise.
9. Fix the unit firmly if mounted in a high place.

Caution:

Do not use the air conditioner in the following environments : greasy areas (including areas near machines), or marine areas. Contact your local dealer for advice.

3-2 Controls and Components

AW05M0YEA AW05M0YEB
AW05M0YBA AW05J0YAA



3-2-1 Thermostat

OFF :
When the room temperature is lowered by the air conditioner, the gas within the thermostat will contract and cause a break in the electric contact. The compressor will then stop.
After the compressor stops, the room temperature will rise

ON :
As the room temperature increases to a selected level, the gas within the thermostat expands, causing electric contact, which provides the source of electric power to the compressor. The room temperature will fall and the cycle will repeat.

Control Operation :
By turning the control knob clockwise(toward higher numbers), the temperatures will be cooler.
By turning the control knob counterclockwise (toward lower numbers), the temperature will be warmer.
Level 1 : Cool air will be supplied above 30~35℃
Cool air will be ceased below 28~32.5℃
Level 10 : Cool air will be supplied above 17.4~20.4℃
Cool air will be ceased below 14.4~17.4℃

3-2-2 Operation

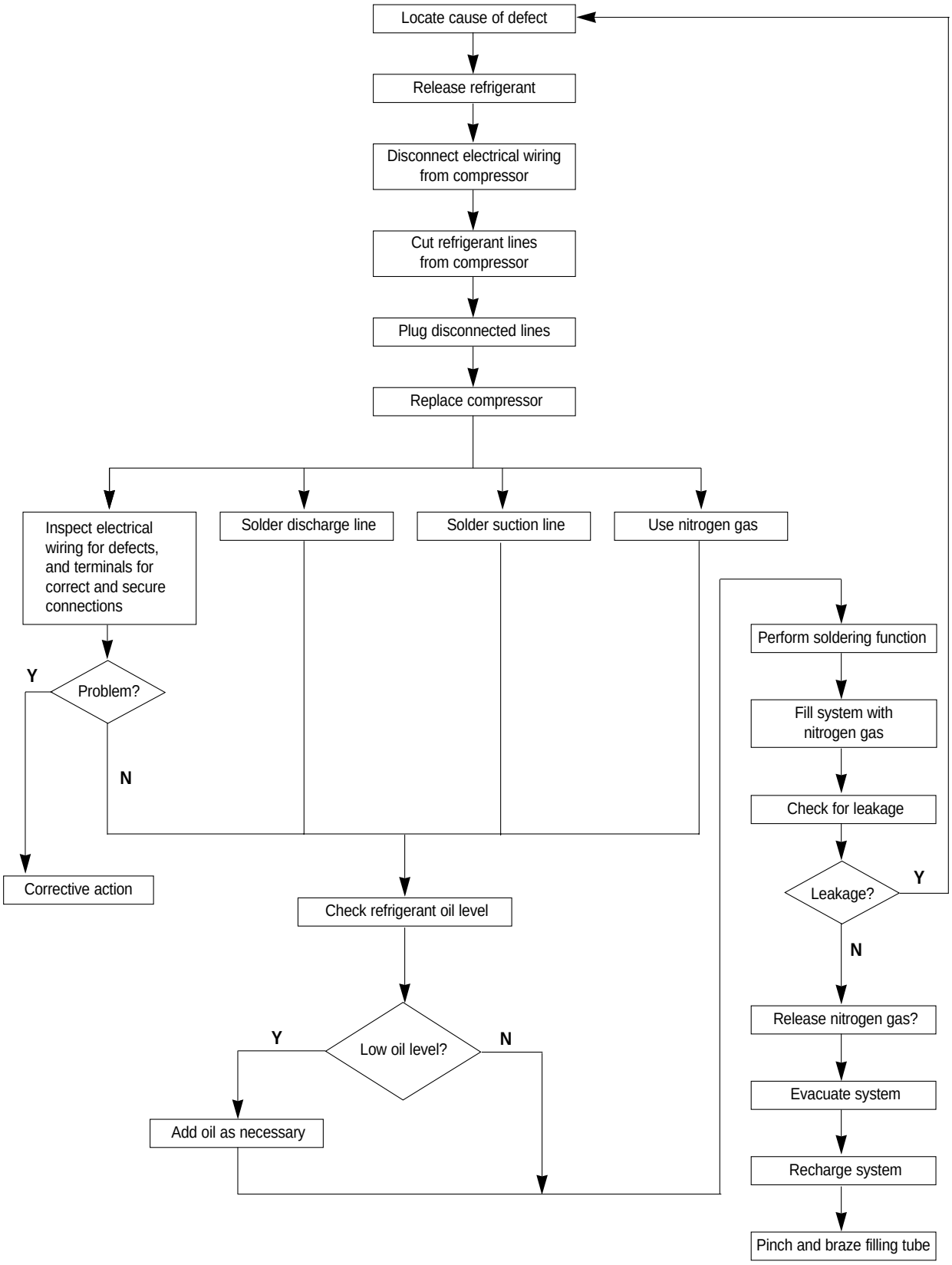
The fan selector switch offers high and low fan cooling control levels to assure maximum comfort.
The two fan speeds allow you to economically circulate room air flow on days when intense cooling is not required. When combined with the thermostat(set to call for conditioned air), these controls cool, dehumidify , filter, and circulate room air, with the fan continuing to circulate air even when the compressor is turned off.

3-2-3 Fan speed switch

The fan speed switch offers high and low fan cooling control levels to assure maximum comfort.
The two fan speeds allow you to economically circulate room air flow on days when intense cooling is not required. When combined with the thermostat(set to activate the air conditioner)hese controls cool, dehumidify , filter, and circulate room air, with the fan continuing to circulate air while the compressor is turned off.

4. Disassembly and Reassembly

4-1 Compressor Replacement Flow Chart



4-2 Checking the oil

Fill the transparent container with 10cc of oil, and then conduct the test.

4-2-1 Oil quality

Condition of Refrigerant Cycle	Oil Condition		Remarks
	Color	Odor	
Normal	Straw Yellow	No Odor	Return with the system
Over-heated	Brown Color	-	Change the oil
Compressor Damage	Dark Brown	Pungent oil	Change the oil

4-2-2 Replacing and refilling the refrigerant oil

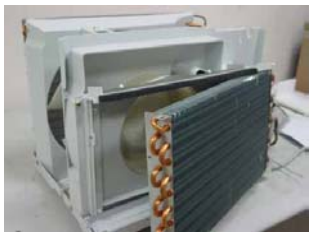
1. Change the compressor - DO NOT recharge the oil as the compressor itself is already charged.
2. Change the condenser .... add 50cc
3. Change the evaporator .... add 50cc
4. When the refrigerant is replaced .... add 30cc oil.
5. After vacuum is completed, the oil is filled through the high pressure side.
6. In the event of a refrigerant leak, generally it is not necessary to add oil.
   (Unless the oil has leaked significantly.)

4-3.Disassembly and Reassembly Procedure

Stop operating the air conditioner, and pull out the power cord before repair.

No.	Part Name	Procedures	Remarks
1	Ass'y Grille	1.Pull the Grille air inlet and Guard air filter out. 2.Remove the screw on the panel front. 3.Hold the lower part of panel with two hands while pressing down on both sides of the lower part of the cabinet, pull it forward by about 30mm,and then lift it up carefully for removal.	
2	Ass'y Cabinet	1.Remove all screws on the both side of the cabinet . 2.Take the cabinet upward.	
3	Ass'y Control	1.Remove the earth screw fixed on the base. 2.Remove 3 screws fixed on the partition. 3.Remove the screw fixed for the power cord. 4.Un-connect the motor wire and comp lead wire, then take out the control box upward.	 (The picture maybe have a little different from actual product)

Disassembly and Reassembly Procedure

No.	Part Name	Procedures	Remarks
4	CASE EVAP UP & ASSY EVAP	1.Take the case evap up forward carefully. (tear all the seal on it before) 2.Pull the frame up upward.	
5	Blower	1.Remove all screws on the evaporator. 2.Pull the evaporator from frame low carefully. 3.Remove the nut and remove the Blower.	
6	Case Cond & Fan Propeller & Motor Fan	1.Remove 2 screws on the rear side of the base pan, and all screws fixed on case cond. 2.Pull up the condenser from the base pan. 3.Remove the nut and remove the Propeller fan. 4.Remove the screw fixed on the partition and earth screw fixed on the base pan, then take out the motor backward.	

5. Troubleshooting

5-1 Special Precautions

5-1-1 Check the voltage of the of power source.

The input voltage shall be,

MODEL NAME	POWER TYPE
AW05M0YEA/EB	220-240V~,50Hz
AW05M0YBA	220V~,60Hz
AW05**YA*	115V~,60Hz

The air conditioner may not operate properly if the voltage is out of this range.

5-1-2 Check weak and fragile parts.

5-1-3 Check the connection of terminals.

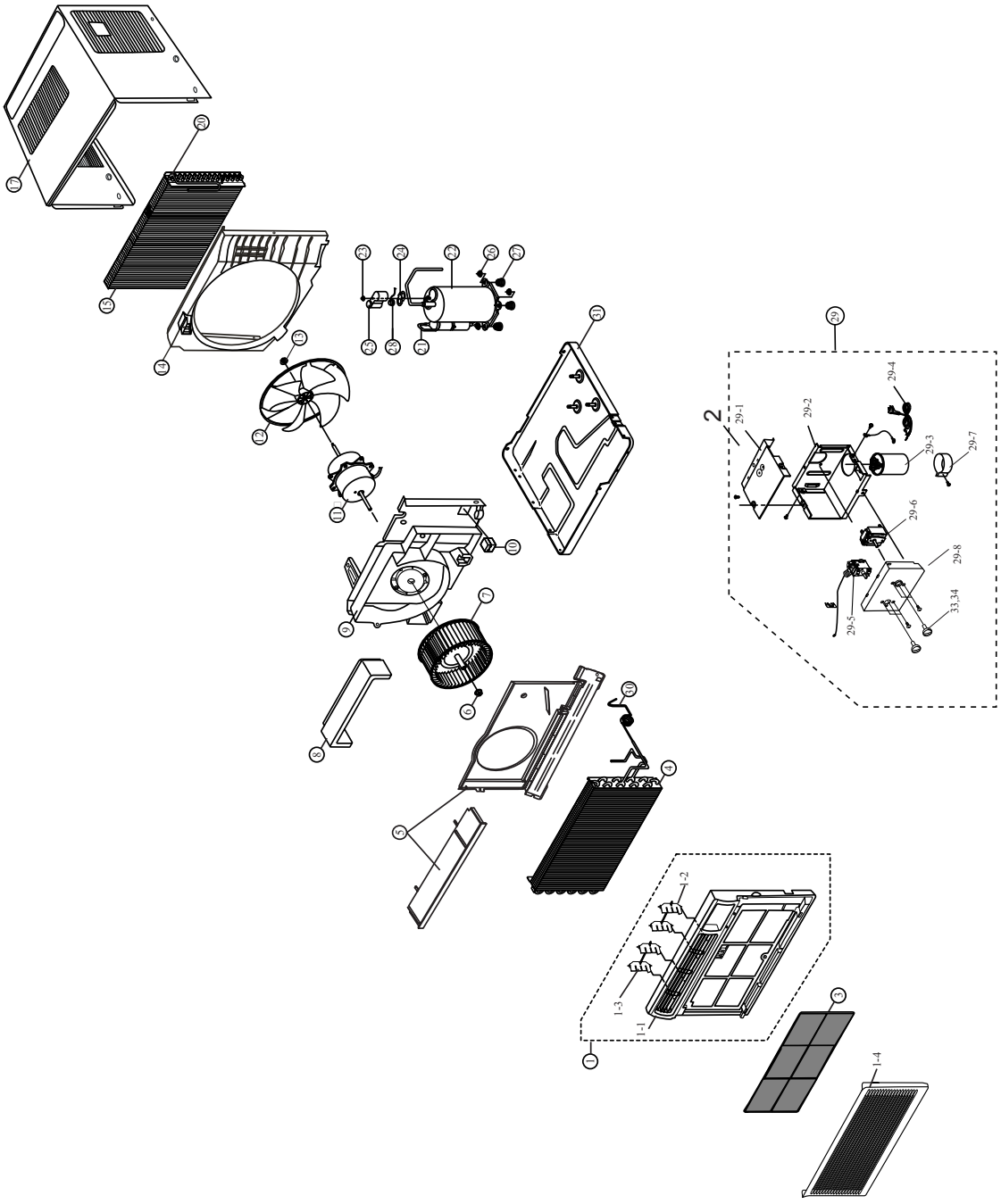
5-1-4 When a malfunction occurs:

No	Trouble	Checkpoints	Possible cause
①	Compressor does not run.	1. Check the thermostat position. 2. Check the connection of the lead wire. 3. Check the over load protector. 4. Check the compressor. 5. Check the position of the select switch.	1. Setting temp is lower than room temp. 2. Disconnection of the lead wire. 3. O.L.P is faulty 4. Compressor is faulty
②	Motor does not run.	1. Check the connection of the lead wire & switch. 2. Check the motor 3. Check whether the unit is deicing.	1. Disconnection of the lead wire 2. Switch is faulty. 3. Motor is faulty. 4. The unit is operating on the deice mode.
③	Low cooling capacity	1. Check the refrigerant leakage. 2. Check the evaporator condition. (freezing, blocked with dusts, etc.) ✻ Difference of temp. exists between the suction side and the discharge side at least 12 C. ✻ Standard condition Indoor : 27 C outdoor : 35 C	1. Caused by the pipe crack. 2. Shortage of refrigerant. 3. Clean the evaporator & air filter.
④	Noise	1. Check vibration of the pipe. 2. Check the propeller fan and blower (not loose or broken). 3. Check bearing noise of the motor. 4. Check the compressor noise against.	1. Pipes are contact with the other parts. 2. The hex. nut is loose 3. The parts are broken 4. Motor is faulty 5. Compressor is faulty that of other compressors.

MEMO

6. Exploded View and Parts List

6-1 Main unit



■Part List

No	Description	Code No.	Specification	Q'TY			
				AW05M0YEA	AW05M0YEB	AW05M0YBA	AW05J0YAA
1	ASSY PANEL FRONT	DB92-00394A	ASSY,TOP,SEA	1	1	1	1
1-1	PANEL FRONT	DB64-00759A	HIPS,T2	1	1	1	1
1-2	BLADE V	DB66-00367A	HIPS,T2.0	4	4	4	4
1-3	LINK BLADE	DB66-00368A	PP,L82,T1.3	2	2	2	2
1-4	GRILLE AIR INLET	DB64-00681A	HIPS,T2	1	1	1	1
2	CASE CONTROL UP	DB61-00933A	SGCC-M,T0.7	1	1	1	1
3	FILTER	DB63-00600A	HIPS,T2.5	1	1	1	1
4	EVAPORATOR	DB96-01972A	2R×10S,FP1.3	1	1	1	1
5	ASSY-PLATE EVAP CASING	DB90-00898A	ASSY	1	1	1	1
6	NUT-FRANGE	DB60-30004A	2C M6 SM20C NTR	1	1	1	1
7	BLOWER	DB67-00099A	ABS,-,OK_TOP-P/J	1	1	1	1
8	ASSY-EVAP CASE UP	DB90-00944A	25FO-PS	1	1	1	1
9	PLATE-PARTITION	DB70-00219A	ABS,-,T2.5	1	1	1	1
10	INSULATION-TUBE	DB72-50178A	T30,W36,L34,NBR	1	1	1	1
11	MOTOR	DB31-00035N	YGN50-4L	1	1	-	-
		DB31-00210A	YGN50-6S	-	-	1	-
		DB31-00035J	YGN50-6K(M)	-	-	-	1
12	FAN-PROPELLER	DB67-00014A	ABS,290,OK-PJT	1	1	1	1
13	NUT-FRANGE	DB60-30020A	M6,LEFT	1	1	1	1
14	CASE COND	DB61-00932A	复合PP,T2,W378,L308	1	1	1	1
15	ASSY-COND	DB96-02362A	1R×16S,FP1.4	1	-	-	-
		DB96-02362B	1R×16S,FP1.2	-	1	-	-
		DB96-02924A	2R×16S	-	-	1	-
		DB96-01946A	1R×15S	-	-	-	1
17	ASSY CABINET	DB90-00912B	Y-PJT,TOP	1	1	1	1
20	TUBE DISCHARGE	DB62-01476A	PI5.0,C1220T-0	1	1	-	-
		DB62-01426A	PI5.0,C1220T-0	-	-	1	-
		DB62-01313A	PI7.0,C1220T-0	-	-	-	1
21	TUBE SUCTION	DB62-01314A	C1220T-0	-	-	1	1
		DB62-01314B	C1220T-0	1	1	-	-
22	COMPRESSOR	39A052JS1KA	1Ph,220~240V,50Hz	1	-	-	-
		39A052JSAKA	1Ph,220~240V,50Hz	-	1	-	-
		39A052ISAKA	1Ph,220,60Hz	-	-	1	-
		39A050HS1KA	1Ph,115,60Hz	-	-	-	1
23	NUT-TERMINAL COVER	DB60-30001A	M5,-,SM20C	1	1	1	1
24	GASKET	DB63-20003A	EPDM,T0.8	1	1	1	1
25	COVER-TERMINAL	DB63-10026A	GE,-,NORYL,-,SEI-701	1	1	1	1
26	NUT WASHER	DB60-30028A	M8,ZPC	3	3	3	3
27	GROMMET-ISOLATOR	DB73-00016A	EPDM,-,BLK,OK-PJT	3	3	3	3
28	O.L.P	DB35-00006D	MRA12100-12008	1	-	-	-
		DB35-00022G	KA-122-LYDN59B	-	1	-	-
		DB35-00022E	KA-122-LYGN59B	-	-	1	-
		DB35-00006F		-	-	-	1
29	ASSY CONTROL BOX	DB93-01617E	5K,MECH	1	1	-	-
		DB93-01617D	5K,MECH	-	-	1	-
		DB93-01617A	5K,MECH	-	-	-	1
29-1	CASE CONTROL UP	DB61-00933A	SGCC-M,T0.7	1	1	1	1
29-2	CASE CONTROL LOW	DB61-00934A	SGCC-M,T0.7	1	1	1	1
29-3	C-OIL	2501-001125	1.5/20μF,450VAC	1	1	-	-
		2501-001160	1.5/15μF,450VAC	-	-	1	-
		2501-001290	3.5/35UF,270VAC	-	-	-	1
29-4	THERMOSTAT	DB47-20074D	MOLD CAM,OK-P/J	1	1	1	1
29-5	SWITCH-ROTARY	3406-001045	240V,25A,6P	1	1	1	1
29-6	POWER CORD	DB39-00346A	125V,15,AWG18	1	1	-	-
		DB39-10032S	TANDEM,250V	-	-	1	-
		DB39-00343G	125V,AWG18	-	-	-	1
29-7	CLIP-CAPACITOR	DB65-00031A	SGCC-M,T0.45	1	1	1	1
29-8	PANEL CONTROL	DB64-00758A	ABS,T2.0	1	1	1	1
30	TUBE CAPILLARY	DB62-01315A	C1220T-H	1	-	-	1
		DB62-02153A	ID1.2×L1100	-	1	-	-
		DB62-02194A	ID1.2×L1200	-	-	1	-
31	ASSY BASE	DB90-00897A	MSWR10,M8,L10	1	1	1	1
33	KNOB-THERMO ASSY	DB64-00838A	ABS	1	1	1	1
34	KNOB-THERMO ASSY	DB64-00838B	ABS	1	1	1	1

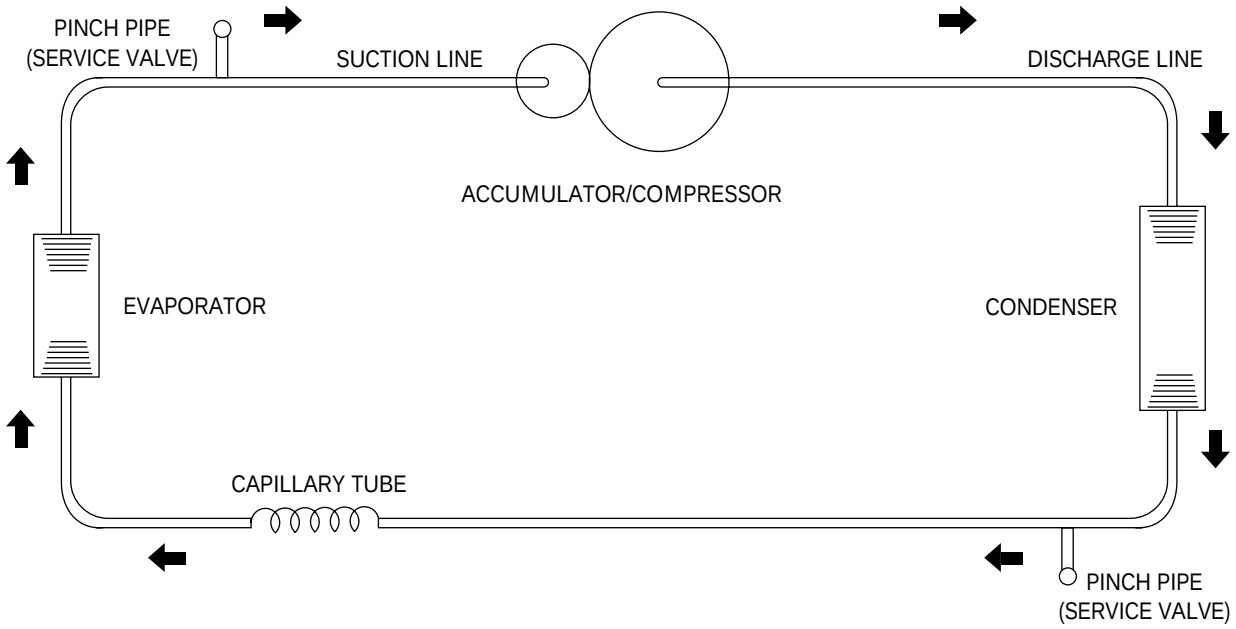
Exploded View and Parts List

■Part List

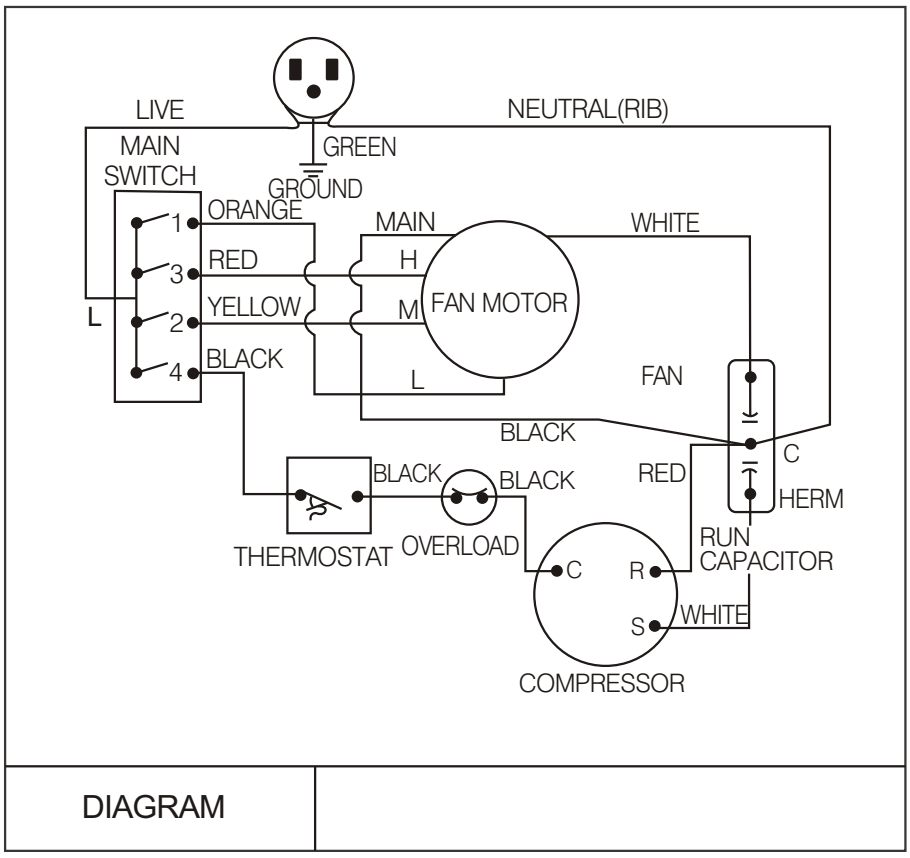
No	Description	Code No.	Specification	Q'TY		
				AW05M0YAF	AW05M0YAG	REMARK
1	ASSY PANEL FRONT	DB92-00394A	ASSY,TOP,SEA	1	1	
1-1	PANEL FRONT	DB64-00759A	HIPS,T2	1	1	
1-2	BLADE V	DB66-00367A	HIPS,T2.0	4	4	
1-3	LINK BLADE	DB66-00368A	PP,L82,T1.3	2	2	
1-4	GRILLE AIR INLET	DB64-00681A	HIPS,T2	1	1	
2	CASE CONTROL UP	DB61-00933A	SGCC-M,T0.7	1	1	
3	FILTER	DB63-00600A	HIPS,T2.5	1	1	
4	EVAPORATOR	DB96-01972A	2R×10S,FP1.3	1	1	
5	ASSY-PLATE EVAP CASING	DB90-00898A	ASSY	1	1	
6	NUT-FRANGE	DB60-30004A	2C M6 SM20C NTR	1	1	
7	BLOWER	DB67-00099A	ABS,-,OK_TOP-P/J	1	1	
8	ASSY-EVAP CASE UP	DB90-00944A	25FO-PS	1	1	
9	PLATE-PARTITION	DB70-00219A	ABS,-,T2.5	1	1	
10	INSULATION-TUBE	DB72-50178A	T30,W36,L34,NBR	1	1	
11	MOTOR	DB31-00035Q	YGN50-6K	1	1	
12	FAN-PROPELLER	DB67-00014A	ABS,290,OK-PJT	1	1	
13	NUT-FRANGE	DB60-30020A	M6,LEFT	1	1	
14	CASE COND	DB61-00932A	复合PP,T2,W378,L308	1	1	
15	ASSY-COND	DB96-02044B	2R×15S	1	1	
17	ASSY CABINET	DB90-00912B	Y-PJT,TOP	1	1	
20	TUBE DISCHARGE	DB62-01349B	PI5.0,C1220T-0	-	1	
		DB62-02408B	PI5.0,C1220T-0	1	-	
21	TUBE SUCTION	DB62-01314A	C1220T-0	1	1	
22	COMPRESSOR	DB95-00490A	2R7S126BUC	1	-	
		39A050HSAKA	1Ph,115,60Hz	-	1	
23	NUT-TERMINAL COVER	DB60-30001A	M5,-,SM20C	1	1	
24	GASKET	DB63-00990A	EPDM,T0.8	1	-	
		DB63-00765A	EPDM,T0.8	-	1	
25	COVER-TERMINAL	DB63-01030A	GE,-,NORYL,-,SEI-701	1	-	
		DB63-00762A	GE,-,NORYL,-,SEI-701	-	1	
26	NUT WASHER	DB60-30028A	M8,ZPC	3	3	
27	GROMMET-ISOLATOR	DB63-01028A	EPDM,-,BLK,OK-PJT	3	-	
		DB63-00764A	EPDM,-,BLK,OK-PJT	-	3	
28	O.L.P	DB35-00031C	MRA99811-9201	1	-	
		DB35-00022C	KA-122-LBDN61K	-	1	
29	ASSY CONTROL BOX	DB93-02607B	5K,MECH	1	-	
		DB93-02607A	5K,MECH	-	1	
29-1	CASE CONTROL UP	DB61-00933A	SGCC-M,T0.7	1	1	
29-2	CASE CONTROL LOW	DB61-00934A	SGCC-M,T0.7	1	1	
29-3	C-OIL	2501-001290	3.5/35UF,270VAC	1	1	
29-4	THERMOSTAT	DB47-20074D	MOLD CAM,OK-P/J	1	1	
29-5	SWITCH-ROTARY	3406-001045	240V,25A,6P	1	1	
29-6	POWER CORD	DB39-00343G	125V,AWG18	1	1	
29-7	CLIP-CAPACITOR	DB65-00031A	SGCC-M,T0.45	1	1	
29-8	PANEL CONTROL	DB64-00758A	ABS,T2.0	1	1	
30	TUBE CAPILLARY	DB62-02153A	ID1.2×L1100	1	1	
31	ASSY BASE	DB90-00897A	MSWR10,M8,L10	1	1	
33	KNOB-THERMO ASSY	DB64-00838A	ABS	1	1	
34	KNOB-THERMO ASSY	DB64-00838B	ABS	1	1	

7. Block Diagram

7-1 Refrigerating Cycle Block Diagram



8. Wiring Diagram



DIAGRAM	

UPDATE LOG SHEET

Application date	Page	Part#	Note(Cause & Solution)	S/Bulletin#
2003.12.10	2-1/6-2	All	Add(AW05J0YAA)	
2004.05.10	2-2/6-3	All	Add(AW05M0YAF/G)	

Use this page to keep any special servicing information. (Service Bulletin, etc.)
If only parts number changes, Just change parts number directly on parts list.
And if you need more information, please see the service website.

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